$\zeta(\theta)$ and we then have the result that if

$$r^2 = [x - \xi(\theta)]^2 + [y - \eta(\theta)]^2 + [z - \zeta(\theta)]^2,$$

$$\alpha = t - \frac{r}{c}, \quad \beta = \frac{x - \xi(\theta) - i[y - \eta(\theta)]}{r + [z - \zeta(\theta)]},$$

the definite integral

$$V = \int_{\theta_1}^{\theta_2} F(\alpha, \beta, \theta) \frac{d\theta}{r}$$

satisfies the wave equation, provided θ_1 and θ_2 are roots of the equations

$$G_1(\alpha, \beta, \theta) = 0 \quad \text{and} \quad G_2(\alpha, \beta, \theta) = 0$$

respectively. The case in which F, G_1 and G_2 are independent of β is of special interest. V may then be regarded as the velocity potential of a chain of sources of sound each of which is only active for a certain interval of time which may be different for different sources.

THROOP COLLEGE OF TECHNOLOGY,
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LITERATURE OF PURE MATHEMATICS.

Historical Introduction to Mathematical Literature. By G. A. MILLER. New York, Macmillan, 1916. 14 + 302 pp. Price $1.60.

IT is difficult to overestimate the extent of inspiration which may emanate from interesting exposition of problems and wonders of science in a form intelligible to those who are not deeply versed in the subject. How much richer must be the intellectual outlook of thousands throughout the world who have read: Science and Hypothesis, The Value of Science, and Science and Method! Is it hard to believe that the future historian may some day tell us that the very notable stage of advancement of astronomy in America in 1910 was not a little due to Simon Newcomb's remarkable gifts of popularization of his subject, exercised through written and spoken word in magazine, book, society, and congress during